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09/883,002	06/15/2001	Dan Shaw	930016-2002	1475

20999 7590 02/11/2004  
FROMMER LAWRENCE & HAUG  
745 FIFTH AVENUE- 10TH FL.  
NEW YORK, NY 10151

EXAMINER

PIERCE, WILLIAM M

ART UNIT PAPER NUMBER

3711

DATE MAILED: 02/11/2004

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Paper No. 15

Application Number: 09/883,002  
Filing Date: June 15, 2001  
Appellant(s): SHAW ET AL.

Ronald R. Santucci  
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/14/03.

(1) ***Real Party in Interest***

A statement identifying the real party in interest is contained in the brief.

(2) ***Related Appeals and Interferences***

A statement identifying the related appeals and interferences which will directly affect or be directly affected by or have a bearing on the decision in the pending appeal is contained in the brief.

(3) ***Status of Claims***

The statement of the status of the claims contained in the brief is correct.

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**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Invention**

The summary of invention contained in the brief is correct.

**(6) Issues**

The appellant's statement of the issues in the brief is correct.

**(7) Grouping of Claims**

Appellant's brief includes a statement that claims 1-18 stand or fall together.

**(8) Claims Appealed**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(9) Prior Art of Record**

4,014,521	Berman	3-1977
3,983,553	Kesling	9-1976

In addition Appellant's admitted prior art on pg. 1, lns. 11-pg. 2, lns. 10.

The following is the prior art not relied on but cited as to develop only a portion of what is known in the art of relays and control systems at the time of the invention. These references show the general skill of one practicing in the art of remote control systems and the motivation that would provide such persons. See In re Berg, 65 USPQ2d 2003 (Fed. Cir. 2003) .

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**(10) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

***Claim Rejections - 35 USC § 112***

Claims 5-17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 5-7 the "control lines" and "power lines" are merely functionally recited in means plus function structure and nowhere are they positively recited as a necessary part of the claimed combination. As such further references to "said control lines" and "said power lines" lack a proper antecedent. One must be able to determine the metes and bounds of the claims and if "control lines" and "power lines" are a necessary part of the claimed combination. Examiner has guided Appellant by stating that, "for example, the control lines between the control means and the basketball goal should be positively recited prior to referring to them in a statement of function." However, Appellant has been reluctant to set forth amendments to clarify this issue. As a result this issue is brought by Appellant before the Board. Allowing Appellant to construct his claims so that he may interpret them as he sees fit to either include "control lines" and "power lines" do not present clear metes and bounds for the claims and the Board should affirm this grounds for rejection.

Claims 10-12 are inapt in that they are purely narrative without further limiting the structure of the previously recited elements such that one cannot determine the metes and bound of the claims. Examiner's position with respect this issue is clearly set forth in MPEP where the term "adapted to" is considered to be language that suggests or makes optional but does not require steps to be performed or does not limit a claim to a particular structure does not limit the scope of a claim or claim limitation.

Claim 14 is indefinite in that the structure required by a "particular application" unclear. The scope of claim 15 and what is included in "virtual animation" is unclear. In claims 16 and 17, "height adjusters" and "auxiliary gymnasium equipment" is unclear and lacking proper antecedent basis or alternatively one cannot determine whether these are being claimed in combination.

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***Claim Rejections - 35 USC § 103***

I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

II. Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman in view of Kesling and further in view of matters considered old and well known.

Basketball arena having goals of adjustable height and curtains for division between a plurality of courts is admitted prior art by applicant (pg. 1, ln. 5 of spec.) and Berman is an example of such prior art. Berman broadly relates to "sports events, such as those played on indoor courts" (col. 1, ln. 5). To have played other indoor sports known in the prior art such as basketball having adjustable high goals and division netting as discussed by the applicant would have been an obvious matter of replacing one known sport for that of another. Neither Berman nor appellant discuss control means for moving the apparatus in the arena as prior art. However, automating a manual activity has been held to be obvious and not considered a patentable advance. See *In re Venner*, 262 F.2d 91, 120 USPQ 193, 194 (CCPA 1958) (Appellant argued that claims to a permanent mold casting apparatus for molding trunk pistons were allowable over the prior art because the claimed invention combined "old permanent - mold structures together with a timer and solenoid which automatically actuates the known pressure valve system to release the inner core after a predetermined time has elapsed." The court held that broadly providing an automatic or mechanical means to replace a manual activity which accomplished the same result is not sufficient to distinguish over the prior art.). Appellant's automation as failed to produce any unexpected results or solve any particular problem. The benefits of automating and providing remote control are well known and flow naturally during their application to a known device. In the instant case, appellant's automation of a basketball court produces nothing new than what would be expected by one skilled in the art. Further called for are relays for a first voltage and a second voltage.

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Having a control system that operates at a first lower 12 volt DC voltage control devices that operate at a second higher 110 voltage is well known in the art of control systems as taught by Kesling. To have used a 12 volt control system in Berman would have been obvious in order to save power and provide safety.

It is known in the art of automating a device to centrally locate all the automation controls. In coming to such a conclusion, the examiner observes that an artisan must be presumed to know something about the art apart from what the references disclose (see *In re Jacoby*, 309 F.2d, 513, 516, 135 USPQ 317, 319 (CCPA 1962) and the conclusion of obviousness may be made from "common knowledge and common sense" of the person of ordinary skill in the art (see *In re Bozek*, 416, F. 2d, 1385, 163 USPQ 545, 549 (CCPA 1969). Automation controls for performing such activities are readily available and it would be common sense to have a central control as is further taught by Kesling. There is no evidence that applicant's invention has done nothing more than automate a previously manual activity. No evidence has been submitted to show that anything unexpected has been accomplished and/or any particular problem has been solved such as improved basketball performance, greater profits for the sports arena, greater safety and etc. Secondly, the scope of the language of Venner states that automation "which accomplished the same result is not sufficient to distinguish over the prior art." The examiner submits that applicant's invention accomplishes the same results of raising and lowering goals and opening and closing curtains whether done manually or automatically. Hence, examiner cannot agree with the position of appellant and the rejection should be sustained.

However, this statement is made without an entire consideration for obviousness and motivation as it applies to 35 USC 103. The word "motivation" or a word similar to "motivation" does not appear in 35 U.S.C. § 103(a). While a finding of "motivation" supported by substantial evidence probably will support combining teachings of different prior art references to establish a prima facie obviousness case, it is not always necessary. For example, where a claimed apparatus requiring Phillips head screws differs from a prior art apparatus describing the use of flathead screws, it might be hard to find motivation to substitute flathead screws with Phillips head screws to arrive at the claimed invention. However, the prior art would make it more than clear that Phillips head screws and flathead screws are viable alternatives serving the same purpose. Hence, the prior art would "suggest" substitution of flathead screws for

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Phillips head screws albeit the prior art might not "motivate" use of Phillips head screws in place of flathead screws. What must be established to sustain an obviousness rejection is a legally sufficient rationale as to why the claimed subject matter, as a whole, would have been obvious notwithstanding a difference between claimed subject matter and a reference which is prior art under 35 U.S.C. § 102. Once a difference is found to exist, then the examiner must articulate a legally sufficient rationale in support of a §103(a) rejection. The legally sufficient rationale may be supported by a reason, suggestion, teaching or motivation in the prior art which would have rendered obvious the claimed subject within the meaning of § 103(a). *In re Dance*, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637(Fed. Cir. 1998) (there must be some teaching, suggestion or motivation in the prior art to make the specific combination that was made by the applicant); *In re Gartside*, 203 F.3d 1305, 1319, 53 USPQ2d 1769, 1778(Fed. Cir. 2000) (the best defense against the subtle but powerful attraction of a hindsight-based obviousness analysis is rigorous application of the requirement for a teaching or motivation to combine prior art references); *Pro-Mold and Tool Co. v. Great Lakes Plastics Inc.* 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1629(Fed. Cir. 1996) ("there must be a reason, suggestion, or motivation \*\*\* to combine [the teachings of] \*\*\* references \*\*\*"); *Smiths Industries Medical Systems, Inc. v. Vital Signs, Inc.*, 183 F.3d 1347, 1356, 51 USPQ2d 1415, 1420-21 (Fed. Cir. 1999) (there is no basis for concluding that an invention would have been obvious solely because it is a combination of elements that were known in the art at the time of the invention; the relevant inquiry is whether there is a reason, suggestion, or motivation in the prior art that would lead one of ordinary skill in the art to combine the teachings of the references). In the instant case the examiner has supported his reasoning by sufficient legal rationale such as *In re Venner*, *In re Jacob*, *In re Bozek* and by providing specific examples. Hence, the rejection an examiner's position is deemed proper.)

**(11) Response to Argument**

I. Claims 5-17 were properly rejected under 35 USC 112, second paragraph.

Appellant's position in the first paragraph of his arguments amount to a mere restatement of current case law while the subsequent paragraph amounts to a mere restatement of the limitations of the claims. No specific arguments are made with respect to claims 5-7. Since appellant's arguments are made by appellant with respect to these claims and have not pointed to any clear flaw in the reasoning of the examiner on this issue, nor have they pointed to any evidence of record indicating that the findings of the examiner on this issue, the rejection of claims 5-7 should be sustained on this alone. See *In re Berg*, 65 USPQ2d 2003 (Fed. Cir. 2003) which sets for that deference should be given to the examiner in such instances.

The examiner's position is quite clear with respect to claims 5-7. In claim 5, appellant functionally recites,



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"for activating a plurality of control lines". In claim 6, he positively refers to "said control lines". Since control lines have not been positively set forth in a previous claim, the examiner questioned the metes and bounds of the claim and whether or not the "control lines" are being claimed as part of the required combination. In his Office action, Examiner even offered Appellant suggestions how to clarify this issue. Rather than simply including limitations in the claims that positively recite --a control means--, appellant has presented this issue to the Board with no showing in the claims or specification as to how one skilled in the art could reasonably interpret whether or not "control lines" are being claimed as a necessary part of the claimed combination. Likewise claim 6 functionally recites "for activating a number of power lines" and claim 7 positively refers to "said power lines". With no proper antecedent for "said power lines" being positively recited, it is not clear whether such are being claimed as a necessary part of the claimed invention.

Examiner's position with respect to claims 10-12, 14 and 15 are clearly set forth in the grounds for rejection above. To their support, appellant states the "the claims may be read as providing a means for, *inter alia*, reducing cost, reducing complexity, increasing safety and consolidating electrical lines." Apparently, appellant believes that he is invoking 35 USC 112, sixth paragraph means plus function language. However, nothing in these claims positively recite structure as provided by sixth paragraph. Based upon this fact alone that one cannot determine whether or not appellant's are attempting to recite structure in terms of means plus function, the Board should affirm their rejection under 35 USC 112, second paragraph as being inapt and that one cannot determine the scope of the claims.

The specification does nothing to help one skilled in the art to determine the metes and bounds for the claims. Under 35 USC 112, second paragraph, appellant is to set forth in the claims with specificity what he regards as his invention to be and what he intends to exclude others from practicing. Even in light of the specification, one cannot determine if "control lines" and/or "power lines" are a necessary part of appellant's invention or not. Nor can one tell if applicant is setting forth structure using 35 USC 112, sixth paragraph. No matter of law requires one skilled in the art to guess the metes and bounds of the claims based upon what is read in light of the specification. As such, the grounds for rejection should be sustained

II Claims 1-18 were Clearly properly rejected as unpatentable under 35 USC 103(A).

Appellant merely appeals to the Board that the examiner does not "appreciated the depth of Appellant's invention" and restates his claims amounting to a mere allegation of patentability,.

In the middle of pg. 7, appellant alleges "unexpected results, yet there is no evidence of record to support such (no affidavits, tests or the like have been provided in the prosecution). Any results brought to light by the

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prosecution are those that would flow naturally from the application of a remote control system on an admittedly known prior art basketball system. Based on that alone this argument should be unpersuasive.

Examiner has not taken the position that "everything is known". The examiners position is that one skilled in the art of electrical controls, of motors, using control lines switches and relays would be able to automate the operation of the raising and lowering basket ball goals and court division nets. The safety and reduced costs of using lower voltages in the control systems is notorious in the art. To allow these control systems to operate higher voltage drive motors requires relays to handle their switching. That is the prime use for relays. Note the even Webster's New World Dictionary of the American Language defines a relay to be "a device operated by a relatively weak force but capable of producing a stronger force, used to control a relatively powerful apparatus. 4. In electricity, a device by means of which a change of current or a variation in conditions of an electric circuit causes a change in condition of another circuit or operates another or other devices in the same or another circuit". The Board should consider the above listed prior art and the numerous companies and products that apply automation and remote controls to known products. Since appellant's argument presumes stupidity on the part of one practicing in the art rather than skill (In re Sovish, 226 USPQ 771, 769 F2d 738), the Board should affirm the grounds for rejection herein.

With respect to Berman and Kesling, a prima facie case has clearly been shown. Berman is an example of the prior art admitted old by appellant (Pg 1, lns 11- pg. 2, ln. 10 of the specification). The existence of multiple arenas having basketball goals with a means for moving them up and down and curtains with a means for moving them between play zones cannot be disputed. Berman clearly sets forth that his invention is directed to "divider nets for sports events, such as those played on indoor courts..." (col. 1, ln. 6). Since basketball arenas, which are admitted prior art by appellant, are considered to be "sports events...played on indoor courts", Berman clearly suggest placing basketball arenas for the tennis embodiment shown therein. Placing the admittedly known basket ball arenas in place of the tennis sing such divider nets in such admittedly known prior art arena basketball courts having raising and lowering goals.


Kesling teaches automatic control of a motorized device. Taught is the use of an alphanumeric keypad, central control means, touch screen, 12 volt and 110 volt circuits and relays.. He shows the most basic example of how one would automate a manual activity and the advantages that would flow therefrom. Applying such and automation to a known basketball court in an enclosure such as Bermans would have been clearly obvious in order to eliminate the manual task of independently operating each device separately from separate locations. Motivation does not need to be found in the four corners of the reference but is related to the problem at hand to be solved by one skilled in the art. Surely one skilled in the art wishing to avoid the manual task of going over to individual

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basketball goals and division nettings to change their position would consider the art of remote and automatic controls. Kesling is just the tip of the iceberg on such a crowded and notorious art. Since merely applying what is known in the art of control systems to a known basketball arena does not render a new and nonobvious invention, the grounds for rejection should clearly be sustained by the Board.

*Venner* is considered as on point as *Brouillet* in its application to the instant invention. As set forth in above and in the ground for rejection, a first voltage, relays, control signals, second lower voltage, and central control means are all fairly shown by the applied art. One clearly wishing to not have to individually operate devices at their given locations would clearly consider automatically controlling them from a central location as is done in Kesling. For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

  
**WILLIAM M. PIERCE**  
**PRIMARY EXAMINER**


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February 9, 2004

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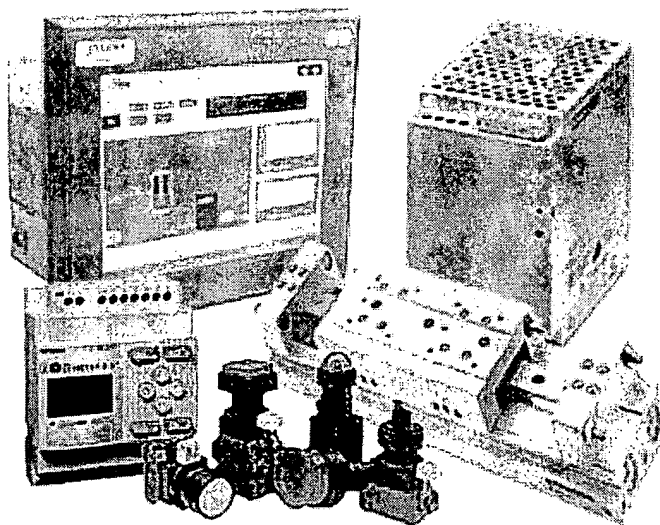


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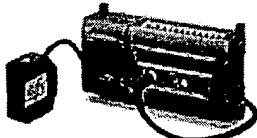
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## CHAPTER 1

# Introduction to Control Systems

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### PREVIEW

In this chapter we describe a general process for designing a control system. A control system consisting of interconnected components is designed to achieve a desired purpose. To understand the purpose of a control system, it is useful to examine examples of control systems through the course of history. These early systems incorporated many of the same ideas of feedback that are in use today.

Modern control engineering practice includes the use of control design strategies for improving manufacturing processes, the efficiency of energy use, advanced automobile control, including rapid transit, among others. We will examine these very interesting applications of control engineering.

We also discuss the notion of a design gap. The gap exists between the complex physical system under investigation and the model used in the control system synthesis. The iterative nature of design allows us to handle the design gap effectively while accomplishing necessary trade-offs in complexity, performance, and cost in order to meet the design specifications.

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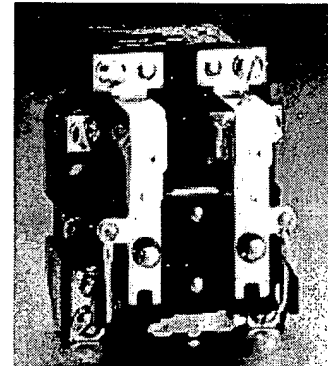
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